



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,137	10/23/2001	Albert Z. H. Wang	NS-3868-1C US	3416
7590	02/23/2004		EXAMINER	
Ronald J. Meetin 210 Central Avenue Mountain View, CA 94043-4869			HU, SHOUXIANG	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/045,137	WANG ET AL.	
	Examiner	Art Unit	
	Shouxiang Hu	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5-8,21,22 and 26-42 is/are pending in the application.
- 4a) Of the above claim(s) 33-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-8,21,22 and 26-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>20040217</u> |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 2-3, 5-8, 21-22, 26-32 drawn to a semiconductor device, classified in class 257, subclass 110.
 - II. Claims 33-42 drawn to a method of making and/or using a semiconductor device, classified in class 327, subclass 314.

Claims 8, 21 and 33 link inventions I and II. The restriction requirement between the linked inventions is subject to the nonallowance of the linking claim(s), claims 8, 21 and 33. Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise including all the limitations of the allowable linking claim(s) will be entitled to examination in the instant application. Applicant(s) are advised that if any such claim(s) depending from or including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Since applicant has received an action on the merits for the originally presented invention of the device as claimed in the Group-I invention, this invention has been constructively elected by original presentation for prosecution on the merits.

Accordingly, claims 33-42 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

2. The proposed drawing corrections filed in 12-09-03 have been reviewed, but are not approved, as the drawings are further objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the combined subject matters that the first terminal is connected to the first and second semiconductor regions and that the first resistor is coupled between the first terminal and the second semiconductor region must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Response to Amendment

3. The amendment filed on January 08, 2004, is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added

Art Unit: 2811

material which is not supported by the original disclosure is as follows: "Although not shown in Fig. 12, a line thus connects the base of transistor 150 to a node between resistor 756 and current source 770"; and "Although not shown in Fig. 12, a line thus connects the base of transistor 130 to a node between resistor 758 and current source 772". These subject matters are not adequately supported in the original disclosure, in view of the "112" rejections below.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 2-3, 5-8, 21-22, and 26-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 8 and 21 each recite the combination of the subject matters that the first terminal is connected to the first and second semiconductor regions and that the first resistor is coupled between the first terminal and the second semiconductor region, which is not fully supported by the original disclosure. According to the relevant embodiments shown in Figs. 13 and 14, only the first resistor (758) is coupled to the second semiconductor region, while the first

Art Unit: 2811

terminal (A) is not directly coupled to the second semiconductor region therein. It is further noted that, in the embodiment of Fig. 12, only the first terminal (A) is coupled to the second semiconductor region (128 through the P+ region), while the first resistor (758) is not directly coupled to the second semiconductor region therein. It is not clear where in second semiconductor region is coupled to the first transistor and how such coupling structure can be formed. The original specification and drawings (including Figs. 12 and 13) lack an adequate description regarding how the first and second semiconductor regions can be both connected to the first terminal, while the first resistor can still be simultaneously coupled between the first terminal and the second semiconductor region. Similar issues also exist on the second terminal side.

5. Claims 2-3, 5-8, 21-22, and 26-32 are further rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 8 and 21 each recite the combination of the subject matters that the first terminal is connected to the first and second semiconductor regions and that the first resistor is coupled between the first terminal and the second semiconductor region. However, if the first terminal is connected to both of the first and second semiconductor regions, as defined in these claims, the first terminal and the second semiconductor region would then be effectively shortened together. It then would effectively shorten the two ends of the first resistor if the first resistor is truly coupled between the first terminal and the second semiconductor region. Similarly, the

Art Unit: 2811

recited second resistor would also be shortened, too. It is not clear how the recited first and second resistors could be functional if each of the two resistors has already been shortened. It appears that the subject matter that the first terminal is connected to both of the first and second semiconductor regions, as shown in Fig. 12, is not simply combinable with the subject matter that the first resistor is coupled between the first terminal and the second semiconductor region, as shown in Fig. 13. Otherwise, the first resistor would be directly shortened by the first terminal, given the facts that the first terminal itself is a conductor, and both of the first terminal and the first resistor are external elements, regardless whether there are parasitic resistors within the semiconductor regions.

Response to Arguments

6. Applicant's arguments filed on 01-08-04 and 12-19-03 have been fully considered but they are not persuasive. Responses to these arguments have been fully incorporated into the "112" rejections set forth above in this Office action.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

Art Unit: 2811

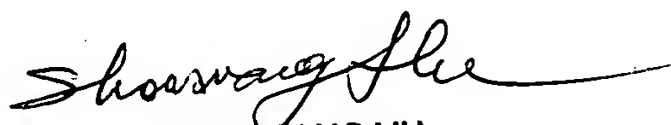
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH
February 17, 2004


SHOUXIANG HU
PRIMARY EXAMINER